

**Bossier Parish Community
Master Syllabus**

Course and Prefix Number: BLGY 102/102L

Credit Hours: 4

Course Title: General Biology II

Course Prerequisites: BLGY 101 or equivalent

Textbook: Mader, Sylvia; Biology, 10th edition

Course Description:

A sequence course for Biology 101. The course topics include classification and survey of the major phyla of organisms and the structure and physiology of the systems of plants and animals. The laboratory portion enhances the understanding of lecture.

Learning Outcomes:

At the end of this course, the student will

- A. outline the five kingdom classification system, assign organisms to the correct classification group based on characteristics and use the system to predict evolutionary patterns;
- B. use the compound light microscope and other basic biological laboratory equipment to examine and identify specimens and to test biological concepts;
- C. predict characteristics of organisms and their role in the biosphere based on knowledge of the major divisions of plants, animals, and fungi;
- D. apply biological concepts to understand the structure and function of the organs and systems of the human body; and
- E. predict organisms of major biomes based on the characteristics and predict the effects of the biomes on the activities of man.

To achieve the learning outcomes, the student will

- 1. assign organisms to the 7 classification categories. (A)
- 2. distinguish between species based on structure and reproductive isolation. (A)
- 3. list the three main schools of evolutionary biology. (A)
- 4. list the five-kingdom system of classification and examples of each. (A)
- 5. explain the contribution of Linnaeus to modern classification systems. (A)
- 6. describe viruses and their means of reproduction. (A)
- 7. describe the prokaryotic cells. (B)
- 8. describe the oxygen and food requirements for bacteria. (C)
- 9. list the common shapes of bacteria their relationship to man. (C)
- 10. define the symbiotic relationships that exist among bacteria and other organisms. (C)

11. describe the general biology of protists. (B)
12. use a light microscope to observe protists. (B)
13. classify protists according to their modes of motion and nutrition. (C)
14. describe and give examples of algae. (C)
15. identify algae species in the laboratory. (B)
16. explain the economic importance of algae and protists. (C)
17. compare the spore forming non-motile parasites that cause human illness. (B)
18. describe the differences between slime molds and water molds. (C)
19. compare fungi according to aspects of their sexual life cycle. (C)
20. list the characteristics of fungi. (C)
21. list the symbiotic relationships of fungi. (C)
22. list the evolutionary history plants. (A)
23. list the characteristics of nonvascular plants. (C)
24. list the characteristics of vascular plants. (C)
25. list the characteristics of seedless vascular plants. (C)
26. list the characteristic of seed plants. (C)
27. list the characteristics of gymnosperms. (C)
28. list the characteristics of angiosperms. (C)
29. identify plant species in the laboratory. (B)
30. state the function of a flower. (C)
31. identify the parts of a flower in the laboratory. (C)
32. list and explain the function of the major organs of a plant. (C)
33. compare monocot and eudicot plants. (C)
34. list and explain the function plant tissues. (C)
35. identify plant tissues in the laboratory. (B)
36. describe the organization of roots stems and leaves. (C)
37. correlate plant nutrition to the types of soil. (C)
38. explain the water and mineral uptake of a plant. (C)
39. describe the transport mechanisms in plants. (C)
40. define four types of plant responses. (C)
41. list plant hormones and the effect each has on plant growth.(C)
42. explain photoperiodism. (C)
43. compare the reproductive strategies of plants. (C)
44. compare sexual and asexual reproduction in plants. (C)
45. explain seed development in plants. (C)
46. identify the different fruit types and mechanisms of seed dispersal. (C)
47. distinguish between invertebrates and vertebrates. (C)
48. describe the phylum porifera. (A)
49. list and explain the different types of symmetry. (A)
50. explain the tube-within-a-tube body plan. (A)
51. list the major phyla of invertebrates and list examples of each. (A)
52. identify invertebrate species in the laboratory. (B)
53. distinguish between protostomes and dueterostomes. (C)
54. list the advantages of coelom in protostomes and dueterostomes. (A)
55. list and describe different types of mollusks. (C)
56. identify and describe different types of Annelids. (C)

57. list characteristics and give examples of the Arthropods. (C)
58. describe the phylum echinoderm. (A)
59. list and explain the characteristics of the vertebrates. (A)
60. compare the features seen in the jawless fish, fishes, amphibian, reptiles, birds, and mammals. (A)
61. list the characteristics of primates. (C)
62. trail the evolution of modern humans. (A)
63. define homeostasis. (C)
64. identify the types of animal tissues. (C)
65. explain how organs are grouped into organ systems. (D)
66. describe and identify the structures used in the circulation transport system in invertebrates and vertebrates with emphasis on humans. (D)
67. list the components of blood and describe the exchange of substances between blood and tissues. (D)
68. describe the structure and function of the human immune system. (D)
69. list and state the function of the organs of the lymphatic system. (D)
70. identify and state the function of the parts of the human digestive tract. (D)
71. discuss proper nutrition. (D)
72. describe gas exchange in gills and lungs. (D)
73. explain the process of respiration in humans. (D)
74. describe the body fluid regulation and excretion in humans. (D)
75. explain nerve impulses and transmission of impulses between neurons. (D)
76. describe the senses of taste, smell, vision, hearing and balance in humans. (D)
77. list and identify the major bones of the human skeleton. (D)
78. describe the two types of bone tissues. (D)
79. list and explain the various methods of birth control. (D)
80. list types of sexually transmitted diseases. (D)
81. identify parts of the human male and female reproductive organs. (D)
82. describe the human embryonic and fetal development stages from conception to birth. (D)
83. list the characteristics of populations. (E)
84. differentiate between density-independent and density-dependent factors of a population. (E)
85. define ecology. (E)
86. explain the structure of the community. (E)
87. discuss the importance of biodiversity. (E)
88. list the characteristics of the ecosystems. (E)
89. identify the trophic levels in ecosystems. (E)
90. trace the flow of energy through an ecosystem. (E)
91. define biosphere. (E)
92. list and describe earth's major terrestrial biomes. (E)
93. identify the earth's major aquatic biomes and how the effects of ocean currents on climate and weather. (E)
94. list some common conservation techniques. (E)
95. list and explain human influences on extinction. (E)

Course Requirements

- minimum 60% on all unit tests or 60% on final test
- minimum 60% average on laboratory exercises
- minimum 60% average on laboratory practical tests
- competency in the use of the light microscope

Course Grading Scale:

- A- 90% or more of total possible points and a minimum average of 60% on unit tests or 60% on the final test and minimum of 60% average on laboratory practical tests and minimum average of 60% on laboratory exercises and demonstrated competency in the use of the microscope
- B- 80% or more of total possible points and a minimum average of 60% on unit tests or 60% on the final test and minimum of 60% average on laboratory practical tests and minimum average of 60% on laboratory exercises and demonstrated competency in the use of the microscope
- C- 70% or more of total possible points and a minimum average of 60% on unit tests or 60% on the final test and minimum of 60% average on laboratory practical tests and minimum average of 60% on laboratory exercises and demonstrated competency in the use of the microscope
- D- 60% or more of total possible points and a minimum average of 60% on unit tests or 60% on the final test and minimum of 60% average on laboratory practical tests and minimum average of 60% on laboratory exercises and demonstrated competency in the use of the microscope
- F- less than 60% of total possible points or less than 60% average on unit tests or final test or less than 60% average on laboratory practical tests or less than 60% average on laboratory exercises or failure to demonstrate competency in the use of the microscope

Reviewed by Bob Boykin / April 2009